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**REMARKS**

Claim 48 is amended. No new claims are added. Claims 2-27, 29-48, and 50-58 are pending for consideration. In view of the following remarks, Applicant respectfully requests that this application be allowed and forwarded on to issuance.

**Finality Improper**

The Examiner has indicated that the Office Action is final. The Applicant respectfully submits that finality is improper and should be withdrawn.

According to MPEP 706.07(a), “second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by Applicant’s amendment of the claims nor based on information submitted in an information disclosure statement. . . .”

In this Office Action, the Office introduces a new ground of rejection for claims 4, 51-53, and 56 by relying on a new reference (Nelson). The Office makes this action final. This new ground of rejection was not necessitated by Applicant’s amendment of the claims. In fact, Applicant made no amendments *whatsoever* to these claims in responding to the previous Office Action (dated April 9, 2003). In addition, this new ground of rejection is not based on information submitted in an IDS. In fact, Applicant had *no* knowledge of the Nelson reference until it received this final Office Action. Thus, under the cited MPEP excerpt, the current Office Action should not be final.

1 This new ground of rejection is one of first impression for the  
2 Applicant, and Applicant has not been given the opportunity to address the  
3 rejection. Applicant respectfully requests that the finality be withdrawn.

4 Although Applicant maintains that finality is improper, Applicant  
5 responds to all rejections in this response, including the new grounds, in the  
6 interest of furthering prosecution.

7  
8 **The § 102 Rejections**

9 Claims 2-3, 5-9, 11, 13-16, 24-27, 29-30, 54-55 and 57 stand  
10 rejected under 35 U.S.C. § 102(a) as being anticipated by PCT Pub.  
11 Number WO 99/55102 to Te-eni (hereinafter “Te-eni”).

12  
13 **The § 103 Rejections**

14 Claims 17-19, 21-23 and 58 stand rejected under § 103(a) as being  
15 unpatentable by Te-eni in view of U.S. Patent No. 6,389,288 to Kuwahara  
16 et al (hereinafter “Kuwahara”).

17 Claims 10, 12 and 20 stand rejected under § 103(a) as being  
18 unpatentable by Te-eni in view of U.S. Patent No. 5,479,476 to Finke-  
19 Anlauff (hereinafter “Finke-Anlauff”).

20 Claims 36, 41 and 42 stand rejected under § 103(a) as being  
21 unpatentable by Kovacs et al (“Adaptive Mobile Access to Context-aware  
22 Service”, IEEE 1999, pp. 190-201).

23 Claims 31-33, 35, 37-38, 40 and 43-47 stand rejected under § 103(a)  
24 as being unpatentable by Kovacs in view of Te-eni.  
25

1 Claims 34 and 39 stand rejected under § 103(a) as being  
2 unpatentable by Kovacs in view of Te-eni and further in view of Finke-  
3 Anlauff.

4 Claims 48 and 50 stand rejected under § 103(a) as being  
5 unpatentable by Kuwahara.

6 Claims 4, 51-53 and 56 stand rejected under § 103(a) as being  
7 unpatentable by Te-eni in view of Nelson.

### 8 9 **Double Patenting Rejection**

10 Claims 2-27, 29-48, and 50-58 stand rejected under the judicially-  
11 created doctrine of obviousness-type double patenting as being  
12 unpatentable over claims 1-53 of U.S. Patent No. 6,327,535 to Evans et al  
13 (hereinafter "Evans") in view of Kovacs.

14 Applicant hereby submits a terminal disclaimer thereby obviating  
15 the obviousness-type double patenting rejection.

### 16 17 **The Te-eni Reference**

18 Because the Office relies so heavily on Te-eni in its rejections of  
19 Applicant's claims, Applicant will summarize the key points of Te-eni and  
20 discuss why Applicant's claimed subject matter is patentably distinct from  
21 anything Te-eni discloses or suggests.

22 Te-eni discloses a system for location and service provisioning based  
23 on mobile phone location (Abstract). In the representative embodiment, a  
24 *front-end unit* assists a cellular *mobile switching center* in logical  
25 determination of mobile phone location (Abstract, also see Fig. 2).

1 As is already apparent from Te-eni's abstract, it is *not* Te-eni's  
2 mobile phone which determines its location – instead, it is always a  
3 separate entity. In this representative embodiment, it is the combined efforts  
4 of the *front-end unit* and the *mobile switching center* (MSC) that  
5 determines the mobile phone's location.

6 Te-eni's Summary of the Invention section discloses several ways in  
7 which a mobile phone's location can be determined.

- 8  
9 • Col. 4, lines 1-3, states that “a *front-end module* is placed  
10 within a controlled area and reports to the cellular system  
11 which subscribers are *located* in the controlled area [emphasis  
12 added].” Therefore, in this embodiment, it is the *front-end*  
13 *module* that determines the mobile phone's location. There is  
14 *no* disclosure or suggestion to have the *mobile phone itself*  
15 determine its own location.
- 16 • Col. 4, lines 16-21, states that “a signaling device, activated  
17 in the regulated area, transmits a beacon signal, which is  
18 received by the mobile phones located in said regulated area.  
19 As the *MSC* receives notification from mobile phones that  
20 said beaconing signal is present, relevant subscribers are  
21 marked as *located* within the regulated area. . . . [emphasis  
22 added].” Therefore, in this embodiment, it is the *MSC* that  
23 determines the mobile phone's location. There is *no*  
24 disclosure or suggestion to have the *mobile phone itself*  
25 determine its own location.

- Col. 4, lines 23-27, states that “the mobile phone receives a signal from a local transmitter and relays said signal to a management system via the cellular switching center. The *management system* identifies the said signal’s properties and extracts the mobile phone’s *location* by processing various parameters related to said signal [emphasis added].” Therefore, in this embodiment, it is the *management system* that determines the mobile phone’s location. There is *no* disclosure or suggestion to have the *mobile phone itself* determine its own location.

Te-*eni*’s Detailed Description provides more details on its methods of determining the location of a mobile phone.

- Col. 9, lines 14-25, states that “the *front-end module* monitors the radio messages transmitted by the mobile unit 22 and determines if the unit is *located* within the regulated area. The front-end 23 communicates with the cellular base station 24 . . . and notifies the MSC 25 of all mobile units currently located within the regulated area. The *MSC* 25 includes a service management unit (SMU) 26. The *SMU* includes software that runs and updates a database of all cellular subscribers current location and profile. . . . The data received from the front end is compared to data from other sources, in order to improve the accuracy of the location coordinates.

1 Thus it is determined whether the user is actually inside the  
2 regulated area [emphasis added].” Therefore, in this  
3 embodiment, it is the *front-end module* that initially  
4 determines the mobile unit’s location and the *MSC* that  
5 improves the accuracy of the location coordinates. There is  
6 *no* disclosure or suggestion to have the *mobile unit itself*  
7 determine its own location.

- 8 • Col. 10, lines 18 through col. 11, line 7, states that “The front  
9 end unit 34 incorporates an array of receiving antennas 35  
10 comprising a plurality of antennas separated from each other  
11 so as to enable accurate intersection of the signals transmitted  
12 from the mobile units nearby the regulated area 31. . . . The  
13 front end unit 34 converts the measured signal strength,  
14 propagation delay, or both from each of the antennas 36-38  
15 into digital format and transmits the measured values to a  
16 nearby base station 39. In the preferred embodiment, all  
17 measurements from various base stations are relayed to the  
18 *MSC*, wherein a processor unit 30 *calculates the location* of  
19 all mobile units in the vicinity of regulated areas wherein a  
20 front end unit is installed [emphasis added].” Therefore, in  
21 this embodiment, it is the *MSC* that determines the mobile  
22 unit’s location. There is *no* disclosure or suggestion to have  
23 the *mobile unit itself* determine its own location. In fact, col.  
24 11, lines 7-10, goes on to states that “it should be understood  
25 that the location of the processor unit may be *either within*

1        *the front end unit 34 or within the base station 39 as well as*  
2        *the MSC 30* [emphasis added].” Therefore, not only is there  
3        *no* disclosure or suggestion to have the *mobile unit itself*  
4        determine its own location, Te-eni teaches directly *away* from  
5        that concept by specifying several alternative locations for the  
6        processing unit – *all* of which are entities *separate* from the  
7        mobile unit.

- 8        • Col. 15, lines 26 through col. 16, line 2, states that “the  
9        presence of the cell-phone in the regulated area may also be  
10       established by detecting the cell-phone using a positioning  
11       front end as a registry at the entrance, corridor, or gate to the  
12       regulated area. The *SMU* will than [sic] extract a database of  
13       the *actual position* of the cell-phone users at any given time  
14       according to the gates they passed and the positioning front  
15       end they have communicated with upon entering and exiting  
16       regulated areas [emphasis added].” Therefore, in this  
17       embodiment, it is the *SMU* that determines the cell phone’s  
18       location. There is *no* disclosure or suggestion to have the *cell*  
19       *phone itself* determine its own location.
- 20       • Col. 16, line 30, through col. 17, line 8, states that “a MSC is  
21       able to determine that certain cell-phones or Mobile Stations  
22       (MS) are located within a predefined area. The method  
23       involves transmission of a low power signal. . . . This signal  
24       will be received by an MS close to the transmitting device  
25       (within the area defined). The MS then transfers information

1       pertaining to this signal to the Base Station (BS) and the  
2       MSC. The *MSC Location Software* (MLS) uses a database of  
3       the signals received in each covered area, analyses the signals  
4       received by the MS, and calculates the MS *location*  
5       [emphasis added].” Therefore, in this embodiment, it is the  
6       *MSC Location Software* that determines the mobile phone’s  
7       location. There is *no* disclosure or suggestion to have the  
8       *mobile phone itself* determine its own location.

- 9       • Col. 18, lines 22-25, states that “The *MLS* identifies the  
10       channels at which a phantom base station is transmitting  
11       among the frequencies listed in the MS message, and  
12       determines that the relevant MS is *within the designated*  
13       *regulated area* [emphasis added].” Therefore, in this  
14       embodiment, it is again the *MLS* that determines the mobile  
15       phone’s location. There is *no* disclosure or suggestion to have  
16       the *mobile phone itself* determine its own location.
- 17       • Col. 20, lines 3-7, discloses “a mobile phone which is  
18       configured to receive a signal or set of signals transmitted  
19       from nearby transmission devices. The mobile phone is  
20       further configured to relay said signal to the *MLS so as to*  
21       *enable the latter* to process the information and derive said  
22       mobile phone’s *location* [emphasis added].” Therefore, in this  
23       embodiment, it is the *MSC* that determines the mobile  
24       phone’s location. There is *no* disclosure or suggestion to have  
25       the *mobile phone itself* determine its own location. In fact,



1 Te-eni teaches directly *away* from any capability of the  
2 mobile phone to determine its own location because it is  
3 *necessary* for the mobile phone to relay the signal to an  
4 outside entity (in this case, the MLS) to determine the mobile  
5 phone's location.

6  
7 **Claims 2-5**

8 **Claim 5** recites a *cellular phone* comprising [emphasis added]:

- 9
- 10 • one or more processors *configured to*:
    - 11 ○ receive information that pertains to a current context of  
12 the cellular phone;
    - 13 ○ *determine the current context* based on the  
14 information;
    - 15 ○ modify at least one behavior of the cellular phone  
16 responsive to the current context; and
  - 17 • an application program interface that is configured to  
18 wirelessly receive information that is associated with the  
19 phone's context.

20 In making out the rejection of claim 5, the Office argues that Te-eni  
21 anticipates this claim. Applicant respectfully but strongly disagrees. Te-eni  
22 does not disclose or suggest a *cellular phone* configured to *determine a*  
23 *current context*. Te-eni appears to deal with only one type of context –  
24 namely, location. As detailed above, not a single embodiment of Te-eni  
25 discloses or even remotely suggests a cellular phone configured to  
determine its *own location*. Rather, a separate entity must always determine  
the cellular phone's location. Specifically, Te-eni discloses that the location  
determination is made by either the front end unit, Mobile Switching

1 Center, Service Management Unit, base station, or Mobile Switching  
2 Center Location Service. As discussed earlier, Te-eni actually teaches  
3 directly *away* from the cellular phone determining its own location.

4 In the Office's "Response to Arguments", the Office directs  
5 Applicant's attention to col. 21, lines 1-4 of Te-eni. In that excerpt, Te-eni  
6 states that "the mobile handset's operating software can be further  
7 configured to perform certain actions upon receiving commands from a  
8 local management system through a short-range transport mechanism. Such  
9 commands may include speaker mute, MS shut down switch from ring to  
10 vibrate mode etc." The Office then states that it is clear that the "  
11 'commands' would read on the 'context' claimed, in order to perform  
12 certain action upon receiving commands, it is clear that the operating  
13 software must be able to determine the context in order to modify the  
14 behavior of the mobile unit."

15 Applicant is somewhat unsure of what the Office is actually  
16 asserting. The only context that Te-eni deals with is *location*. Certainly, the  
17 mobile phone does not need determine its location in order to perform a  
18 speaker mute or other such command. In fact, under Te-eni, the mobile  
19 phone is *completely incapable* of determining its own location. Perhaps the  
20 Office considers the current speaker volume and the current alert mode  
21 (e.g., ring versus vibrate) to be a context as Applicant defines that term. If  
22 so, the Office's attention is directed to Applicant's specification, page 17,  
23 lines 14-20, which is reproduced below:

24 In this document, a specific example of context-dependent  
25 computing is given in the form of location dependent computing.

1 It is to be understood that this constitutes but one example of a  
2 context in which the various embodiments discussed below can  
3 be employed. *Other "contexts" can include, any information*  
4 *that can fit into a hierarchical structure* including, without  
5 limitation, role/personnel in an organization, device  
6 categorizations, current activity, current environment, active  
7 devices and the like.

The specification  
falls to clearly  
or precisely  
define the  
"context"  
term

8 Applicant further discusses the term "context", as it relates to cell  
9 phones, in the specification on page 51, lines 1-4, which is reproduced  
10 below:

11 Today, however, *cell phones are not aware of their context* and  
12 in particular, their location. Using the inventive systems,  
13 structures and methods described above, cell phones can be  
14 imparted with context awareness and location awareness in a way  
15 never before experienced.

16 From these two excerpts alone, it should be clear that Applicant  
17 defines the term "context" in such a way that a cell phone's context is  
18 distinguished from the behavior of a cell phone. Settings such as speaker  
19 volume and alert mode define *behaviors* of a cell phone – not the cell  
20 phone's *context*. And, because Te-eni does not disclose or even suggest a  
21 cellular phone configured to determine the current *context*, this claim is  
22 allowable.

23 **Claims 2-4** depend from claim 5 and, as such, are allowable as  
24 depending from an allowable base claim. These claims are also allowable  
25 for their own recited features which, in combination with those recited in  
claim 5, are neither shown nor suggested by Te-eni either alone or in  
combination with any of the references of record.

1 In addition, the Office rejects claim 4 under § 103(a) over the  
2 combination of Te-eni and Nelson. In making out the rejection, the Office  
3 argues that Te-eni discloses all of the claimed limitations in claim 5 except  
4 for a hierarchical traversable tree structure associated with a phone context.  
5 Applicant respectfully disagrees that Te-eni discloses all of the features  
6 recited in claim 5, as noted above. Thus, to the extent that Te-eni does not  
7 anticipate claim 5, the Office has not established a *prima facie* case of  
8 obviousness. Moreover, in reliance on Nelson, the Office argues that it  
9 discloses a hierarchical traversable tree structure associated with a phone  
10 context. The Office further argues that since Nelson teaches the use of  
11 hierarchical traversable trees in connection with computer databases, it  
12 would be obvious to modify Te-eni for using a hierarchical traversable tree  
13 in order to traverse effectively from one mode to another mode for setting  
14 the phone to operate according to an instructed mode. Applicant  
15 respectfully disagrees.

16 Exploring the context of Nelson in more detail, the hierarchical tree  
17 based scheme that Nelson discloses is one that is similar to one described as  
18 the Dataman system discussed in section 2.2.1. In Nelson's system, each  
19 leaf node of the tree represents a base station and the internal nodes of the  
20 tree represent location servers. See, e.g. section 2.2.2, first paragraph.  
21 According to the system described in section 2.2.2, each location server  
22 maintains information regarding mobile hosts residing in the subtree  
23 beneath it and maintains three tuples—a mobile host identifier that provides  
24 the address of the host's home location, a forwarding pointer that identifies  
25 which location server the host has moved to, and a timestamp that indicates

1 the time that the last forwarding took place. Base stations are said to  
2 maintain a similar structure for each host contained within its cell. By  
3 using forwarding pointers various updates strategies can be used. Nelson  
4 instructs that periodically, the forwarding pointers are collapsed and a  
5 single pointer is created. Searching is conducted by progressively moving  
6 up the tree until a location server is found which contains a record for the  
7 required host.

8         Simply put, the hierarchical tree structure that Nelson discloses is  
9 not utilized by mobile devices. Rather, the structure is utilized by either the  
10 base station or the location server to find a record for the required host. To  
11 this extent, Nelson teaches directly away from the subject matter of claims  
12 4 and 5 which collectively recite a cellular phone that determines its own  
13 context by traversing at least one node on one or more hierarchical  
14 traversable tree structures. Thus, the Office has failed to establish a *prima*  
15 *facie* case of obviousness for at least this additional reason.

#### 16 17 **Claims 6-14**

18         **Claim 6** recites a method of operating a cellular phone comprising  
19 [emphasis added]:

- 20
- 21         • wirelessly receiving, with the cellular phone, information that  
22         pertains to a context of the cellular phone, the cellular phone  
23         being configured to receive said information from different  
24         types of context providers that provide different forms of  
25         information;
  - 26         • responsive to said receiving and ***using only the cellular  
phone and its associated on-board componentry,***

1 determining a cellular phone context and modifying at least  
2 one behavior associated with the cellular phone.

3 In making out the rejection of this claim, the Office again argues that  
4 this claim is anticipated by Te-eni. Applicant strongly disagrees. Te-eni  
5 does not disclose or suggest a method of operating a cellular phone  
6 comprising determining a cellular phone context *using only the cellular*  
7 *phone and its associated on-board componentry*. Te-eni appears to deal  
8 with only one type of context – namely, location. As detailed above, not a  
9 single embodiment of Te-eni discloses or even remotely suggests a method  
10 of determining a cellular phone context *using only the cellular phone and*  
11 *its associated on-board componentry*. Rather, a separate entity must  
12 always determine Te-eni's cellular phone's location. Specifically, Te-eni  
13 discloses that the location determination is made by either the front end  
14 unit, Mobile Switching Center, Service Management Unit, base station, or  
15 Mobile Switching Center Location Service. As discussed earlier, Te-eni  
16 actually teaches directly *away* from a method of determining a cellular  
17 phone context *using only the cellular phone and its associated on-board*  
18 *componentry*.

19 In the Office's "Response to Arguments", the Office directs  
20 Applicant's attention to col. 21, lines 1-4 of Te-eni. In that excerpt, Te-eni  
21 states that "the mobile handset's operating software can be further  
22 configured to perform certain actions upon receiving commands from a  
23 local management system through a short-range transport mechanism. Such  
24 commands may include speaker mute, MS shut down switch from ring to  
25 vibrate mode etc." The Office then states that it is clear that the

1 “‘commands’ would read on the ‘context’ claimed, in order to perform  
2 certain action upon receiving commands, it is clear that the operating  
3 software must be able to determine the context in order to modify the  
4 behavior of the mobile unit.”

5 Applicant is somewhat unsure of what the Office is actually  
6 asserting. The only context that Te-eni deals with is *location*. Certainly, the  
7 mobile phone does not need to determine its location in order to perform a  
8 speaker mute or other such command. In fact, under Te-eni, there is *no*  
9 method of determining the context of a cellular phone *using only the*  
10 *cellular phone and its associated on-board componentry*. Perhaps the  
11 Office considers the current speaker volume and the current alert mode  
12 (e.g., ring versus vibrate) to be a context as Applicant defines that term. If  
13 so, the Office’s attention is directed to Applicant’s specification, page 17,  
14 lines 14-20, which is reproduced below:

15 In this document, a specific example of context-dependent  
16 computing is given in the form of location dependent computing.  
17 It is to be understood that this constitutes but one example of a  
18 context in which the various embodiments discussed below can  
19 be employed. *Other “contexts” can include, any information*  
20 *that can fit into a hierarchical structure* including, without  
limitation, role/personnel in an organization, device  
categorizations, current activity, current environment, active  
devices and the like.

21 Applicant further clarifies the term “context”, as it relates to cell  
22 phones, in the specification on page 51, lines 1-4, which is reproduced  
23 below:

24 Today, however, *cell phones are not aware of their context* and  
25 in particular, their location. Using the inventive systems,

1 structures and methods described above, cell phones can be  
2 imparted with context awareness and location awareness in a way  
3 never before experienced.

4 From these two excerpts alone, it should be clear that Applicant  
5 defines the term “context” in such a way that a cell phone’s *context* is  
6 distinguished from the *behavior* of a cell phone. Settings such as speaker  
7 volume and alert mode define *behaviors* of a cell phone – not the cell  
8 phone’s *context*. And because Te-eni does not disclose or even suggest a  
9 method of determining a cellular phone *context using only the cellular*  
10 *phone and its associated on-board componentry*, this claim is allowable.

11 **Claims 7-14** depend from claim 6 and, as such, are allowable as  
12 depending from an allowable base claim. These claims are also allowable  
13 for their own recited features which, in combination with those recited in  
14 claim 6, are neither shown nor suggested by Te-eni either singly or in  
15 combination with any of the references of record either singly or in  
16 combination with one another. In addition, claims 10 and 12 stand rejected  
17 under § 103(a) based on Te-eni and Finke-Anlauff. In making out the  
18 rejection of these claims, the Office argues that Te-eni discloses all of the  
19 limitations in claim 10. Applicant respectfully disagrees. As noted above,  
20 Te-eni does not anticipate claim 6 and, in point of fact, teaches directly  
21 away from the subject matter of this claim. As such, the Office has failed  
22 to establish a *prima facie* case of obviousness with respect to the  
23 combination with Finke-Anlauff. Hence, for this additional reason, claims  
24 10 and 12 are allowable.  
25



1                   **Claims 15-16**

2           **Claim 15** recites one or more readable media having readable  
3 instructions thereon which, when executed by a cellular phone, *cause the*  
4 *cellular phone to* [emphasis added]:

- 5
- 6           • wirelessly receive information from different context source  
7 information types that provide different forms of information  
8 that pertains to a context of the cellular phone; and
  - 9           • responsive to receiving the information, *determine the*  
10 *cellular phone context* and modify at least one behavior  
11 associated with the cellular phone.

12           In making out the rejection of claim 15, the Office argues that Te-eni  
13 anticipates this claim. Applicant respectfully but strongly disagrees. Te-eni  
14 does not disclose or suggest one or more computer-readable media having  
15 readable instructions thereon which, when executed by a cellular phone,  
16 cause the cellular phone to *determine the cellular phone context*. Te-eni  
17 appears to deal with only one type of context – namely, location. As  
18 detailed above, not a single embodiment of Te-eni discloses or even  
19 remotely suggests instructions which cause the cellular phone to *determine*  
20 *the cellular phone location*. Rather, a separate entity must always  
21 determine the cellular phone's location. Specifically, Te-eni discloses that  
22 the location determination is made by either the front end unit, Mobile  
23 Switching Center, Service Management Unit, base station, or Mobile  
24 Switching Center Location Service. As discussed earlier, Te-eni actually  
25 teaches directly *away* from instructions which cause the cellular phone to  
*determine the cellular phone location*.

1 In the Office's "Response to Arguments", the Office directs  
2 Applicant's attention to col. 21, lines 1-4 of Te-eni. In that excerpt, Te-eni  
3 states that "the mobile handset's operating software can be further  
4 configured to perform certain actions upon receiving commands from a  
5 local management system through a short-range transport mechanism. Such  
6 commands may include speaker mute, MS shut down switch from ring to  
7 vibrate mode etc." The Office then states that it is clear that the  
8 "commands" would read on the 'context' claimed, in order to perform  
9 certain action upon receiving commands, it is clear that the operating  
10 software must be able to determine the context in order to modify the  
11 behavior of the mobile unit."

12 Applicant is somewhat unsure of what the Office is actually  
13 asserting. The only context that Te-eni deals with is *location*. Certainly, the  
14 mobile phone does not need determine its location in order to perform a  
15 speaker mute or other such command. In fact, under Te-eni, the mobile  
16 phone is *completely incapable* of determining its own location. Perhaps the  
17 Office considers the current speaker volume and the current alert mode  
18 (e.g., ring versus vibrate) to be a context as Applicant defines that term. If  
19 so, the Office's attention is directed to Applicant's specification, page 17,  
20 lines 14-20, which is reproduced below:

21 In this document, a specific example of context-dependent  
22 computing is given in the form of location dependent computing.  
23 It is to be understood that this constitutes but one example of a  
24 context in which the various embodiments discussed below can  
25 be employed. *Other "contexts" can include, any information  
that can fit into a hierarchical structure including, without  
limitation, role/personnel in an organization, device*

1 categorizations, current activity, current environment, active  
2 devices and the like.

3 Applicant further defines the term “context”, as it relates to cell  
4 phones, in the specification on page 51, lines 1-4, which is reproduced  
5 below:

6 Today, however, *cell phones are not aware of their context* and  
7 in particular, their location. Using the inventive systems,  
8 structures and methods described above, cell phones can be  
9 imparted with context awareness and location awareness in a way  
10 never before experienced.

11 From these two excerpts alone, it should be clear that Applicant  
12 defines the term “context” in such a way that a cell phone’s *context* is  
13 distinguished from the *behavior* of a cell phone. Settings such as speaker  
14 volume and alert mode define *behaviors* of a cell phone – not the cell  
15 phone’s *context*. And because Te-eni does not disclose or even suggest  
16 instructions which cause the cellular phone to *determine the cellular phone*  
17 *context*, this claim is allowable.

18 **Claim 16** depends from claim 15 and, as such, is allowable as  
19 depending from an allowable base claim. This claim is also allowable for  
20 its own recited features which, in combination with those recited in claim  
21 15, are neither shown nor suggested by Te-eni either singly or in  
22 combination with any of the references of record.

### 23 **Claims 17-23**

24 **Claim 17** recites a *cellular phone* comprising [emphasis added]:  
25

- 1 • multiple different types of location providers which  
2 collectively are configured to receive different forms of  
3 location information that can be *used by the cellular phone to*  
4 *ascertain its location*; and
- 5 • one or more processors configured to:
  - 6 ○ receive information associated with a current location  
7 of the cellular phone; and
  - 8 ○ modify at least one behavior of the cellular phone  
9 responsive to the information.

10 In making out the rejection of this claim, the Office argues that the  
11 subject matter of this claim is rendered obvious by the combination of Te-  
12 eni and Kuwahara.

13 Here again, the Office relies on Te-eni in arguing that it discloses a  
14 cellular phone which is capable of determining its location. The Office then  
15 states that although Te-eni fails to disclose the step of ascertaining its  
16 location from multiple location information, such step is known in the art as  
17 disclosed by Kuwahara. Applicant respectfully traverses the rejection and  
18 respectfully submits that the Office has failed to make out a *prima facie*  
19 case of obviousness.

20 Te-eni does not disclose or suggest a *cellular phone* which  
21 *ascertains its location*. As detailed above, not a single embodiment of Te-  
22 eni discloses or even remotely suggests a cellular phone configured to  
23 determine its *own location*. Rather, a separate entity must always determine  
24 the cellular phone's location. Specifically, Te-eni discloses that the location  
25 determination is made by either the front end unit, Mobile Switching  
Center, Service Management Unit, base station, or Mobile Switching  
Center Location Service. As discussed earlier, Te-eni actually teaches  
directly *away* from the cellular phone determining its own location.

1 In the Office's "Response to Arguments", the Office directs  
2 Applicant's attention to col. 10, line 27 through col. 12, line 1, of Te-eni.

3 This excerpt is reproduced below:

4 By measuring signal strength, propagation delay, or both from  
5 each of the receiving antennas 36-38, the distance of the mobile  
6 unit 32 from each antenna is calculated. Arcs of possible  
7 locations of the mobile unit are then derived from the calculated  
8 distances. Well known geographic intersection techniques such  
9 as triangulation, arculation, probability density functions, and the  
10 like are then used to calculate the location of the mobile unit.

11 This excerpt does not disclose or suggest that it is the *mobile unit*  
12 *itself* that determines its own location. Rather, the excerpt describes *how*  
13 the location of the mobile unit is determined by an entity other than the  
14 mobile unit. In fact, Te-eni, *immediately after this excerpt*, goes on to  
15 explain the entity which actually determines the location is either the MSC,  
16 front end unit, or base station. A continuation of the excerpt the Office cites  
17 is reproduced below [emphasis added]:

18 The front end unit 34 converts the measured signal strength,  
19 propagation delay, or both from each of the antennas 36-38 into  
20 digital format and transmits the measured values to a nearby base  
21 station 39. In the preferred embodiment, all measurements from  
22 various base stations are relayed to the *MSC*, wherein a processor  
23 unit 30 *calculates the location* of all mobile units in the vicinity  
24 of regulated areas wherein a front end unit is installed. It should  
25 be understood that the location of the processor unit may be  
*either within the front end unit 34 or within the base station 39*  
*as well as the MSC 30.*

26 Therefore, not only is there *no* disclosure or suggestion to have the  
27 *mobile unit itself* determine its own location, Te-eni teaches directly *away*  
28

1 from that concept by specifying several alternative locations for the  
2 processing unit – *all* of which are entities *separate* from the mobile unit.

3 Accordingly, for at least this reason, the Office has failed to establish  
4 a *prima facie* case of obviousness and this claim is allowable.

5 **Claims 18-23** depend from claim 17 and, as such, are allowable as  
6 depending from an allowable base claim. These claims are also allowable  
7 for their own recited features which, in combination with those recited in  
8 claim 17, are neither shown nor suggested by the references of record either  
9 singly or in combination with one another. In addition, given the Office's  
10 failure to establish a *prima facie* case of obviousness, the rejection of claim  
11 20 over Finke-Anlauff is not seen to add anything of significance.

12  
13 **Claims 24-27 and 29-47**

14 **Claim 24** recites a *cellular phone* comprising [emphasis added]:

- 15
- 16 • receiving means configured to wirelessly receive multiple  
17 different forms of information that pertains to a current  
18 location of a cellular phone and use said multiple different  
19 forms of information to *ascertain the current location*; and
  - 20 • means to modify at least one behavior associated with the  
21 cellular phone responsive to said information.
- 22

23 In making out the rejection of this claim, the Office argues that the  
24 subject matter of this claim is disclosed by Te-eni. Here again, the Office  
25 relies on Te-eni in arguing that it discloses a cellular phone with means to  
ascertain the current location.

1 Te-eni does not disclose or suggest a *cellular phone* which means to  
2 *ascertains the current location*. As detailed above, not a single  
3 embodiment of Te-eni discloses or even remotely suggests a cellular phone  
4 with means to ascertain *its own current location*. Rather, a separate entity  
5 must always determine the cellular phone's location. Specifically, Te-eni  
6 discloses that the location determination is made by either the front end  
7 unit, Mobile Switching Center, Service Management Unit, base station, or  
8 Mobile Switching Center Location Service. As discussed earlier, Te-eni  
9 actually teaches directly *away* from the cellular phone determining its own  
10 location.

11 In the Office's "Response to Arguments", the Office directs  
12 Applicant's attention to col. 10, line 27 through col. 12, line 1, of Te-eni.  
13 This excerpt is reproduced below:

14 By measuring signal strength, propagation delay, or both from  
15 each of the receiving antennas 36-38, the distance of the mobile  
16 unit 32 from each antenna is calculated. Arcs of possible  
17 locations of the mobile unit are then derived from the calculated  
18 distances. Well known geographic intersection techniques such  
19 as triangulation, arculation, probability density functions, and the  
20 like are then used to calculate the location of the mobile unit.

21 This excerpt does not disclose or suggest that it is the *mobile unit*  
22 *itself* that determines its own location. Rather, the excerpt describes *how*  
23 the location of the mobile unit is determined by an entity other than the  
24 mobile unit. In fact, Te-eni, *immediately after this excerpt*, goes on to  
25 explain the entity which actually determines the location is either the MSC,  
front end unit, or base station. A continuation of the excerpt the Office cites  
is reproduced below [emphasis added]:

1 The front end unit 34 converts the measured signal strength,  
2 propagation delay, or both from each of the antennas 36-38 into  
3 digital format and transmits the measured values to a nearby base  
4 station 39. In the preferred embodiment, all measurements from  
5 various base stations are relayed to the *MSC*, wherein a processor  
6 unit 30 *calculates the location* of all mobile units in the vicinity  
7 of regulated areas wherein a front end unit is installed. It should  
8 be understood that the location of the processor unit may be  
9 *either within the front end unit 34 or within the base station 39*  
10 *as well as the MSC 30.*

11 Therefore, not only is there *no* disclosure or suggestion of means to  
12 allow the *mobile unit itself* determine its own location, Te-eni teaches  
13 directly *away* from that concept by specifying several alternative locations  
14 for the processing unit – *all* of which are entities *separate* from the mobile  
15 unit.

16 Accordingly, for at least this reason, this claim is allowable.

17 **Claims 25-27** depend from claim 24 and, as such, are allowable as  
18 depending from an allowable base claim. These claims are also allowable  
19 for their own recited features which, in combination with those recited in  
20 claim 24, are neither shown nor suggested by Te-eni either singly or in  
21 combination with any of the references of record.

### 22 **Claims 29-30**

23 **Claim 29** recites a method of managing cellular phone behavior  
24 comprising [emphasis added]:

- 25 • defining one or more cellular phone behaviors for a given location; and



- wirelessly transmitting information to cellular phones within that location that permits cellular phones to automatically modify their behavior while in that location, wherein said transmitting information comprises transmitting information that is associated with a *location type* that has attributes that define a cellular phone behavior.

In making out the rejection of this claim, the Office argues that Te-  
eni anticipates this claim. Applicant respectfully but strongly disagrees.  
Te-eni does not disclose or suggest transmitting information associated  
with a location *type* that has attributes that define a cellular phone behavior.  
Rather, Te-eni discloses a basic usage policy database with *specific* location  
*instances* in which certain services are allowed or denied.

In the Office's "Response to Arguments", the Office directs  
Applicant's attention to col. 13, line 22 through col. 14, line 9, and col. 21,  
line 1-4, of Te-eni. These excerpts, excluding Te-eni's Table 1, are  
reproduced below [emphasis added]:

Table 1 describes a basic usage policy database for a cellular  
system in accordance with one embodiment of the present  
invention. Line 1 sets the basic rule – all subscribers are allowed  
access to all services at all time. Line 2 denies all cellular  
services from all subscribers located within *the* hospital at all  
time. Lines 3 and 4 limit all subscribers located at *the* concert  
hall (except 245677) to SMS services only during *the* concert  
time (22:00-24:00). Line 9 provides additional services to User  
518603 when located in *the* company factory area, including  
wider bandwidth for network connection and video conferencing,  
better quality of service, reduced price, conference call services  
etc. Similarly, the availability and price of additional services  
may be determined respective to MIN and user profile definitions  
versus user current location and regulated areas database.

The mobile handset's operating software can be further  
configured to perform certain actions upon receiving commands

1 from a local management system through a short-range transport  
2 mechanism. Such commands may include speaker mute, MS shut  
down, switch from ring to vibrate mode etc.

3 The Office states that “it is clear that when a user is located within *a*  
4 hospital or concert hall, services are denied and a command such as ‘MS  
5 shut down’ is transmitted to the mobile, such command message ‘MS shut  
6 down’ is the information **associated** with the location type (i.e., hospital or  
7 concert) and the ‘MS shut down’ is also the attribute of the location type as  
8 claimed.”

9 Applicant respectfully submits that the Office is incorrectly equating  
10 Te-eni’s *specific* location *instance* with Applicant’s location *type*.

11 As the excerpt above indicates, Te-eni discloses a usage policy  
12 database for *specific* location *instances*. For example, Te-eni does not  
13 disclose a location *type* which would include more than one *instance* of a  
14 hospital location. Instead, line 2 deals with “*the*” hospital. Likewise, lines  
15 3 and 4 deal with “*the*” concert hall. Te-eni’s Fig. 5 confirms this in step  
16 54. Step 54 determines whether there is a usage policy defined for a  
17 *specific* location. Step 56 allows or denies service according to the  
18 “location *specific*” usage policy. According to Te-eni then, there is no  
19 single rule which would apply to *more than one* hospital by virtue of the  
20 fact that it is a hospital location *type*. Similarly, the rule for a *specific*  
21 concert hall would not be applicable to any other environment calling for a  
22 similar usage policy or even another concert hall. For example, the Office’s  
23 attention is respectfully directed to Te-eni’s Table 1, lines 3 and 5. There,  
24 Te-eni sets up separate rules for a *specific* concert hall and a *specific*  
25

1 cinema. This is despite the fact that the rules are *identical*. Both location  
2 *instances* call for rules denying all services except SMS between the hours  
3 of 10 p.m. and midnight. Applicant submits that Te-eni's system is  
4 *inefficient, wasteful, and needlessly repetitive*.

5 Applicant, on the other hand, simplifies the association of location  
6 and behaviors through the use of multiple *class types* and various attributes  
7 that are associated with the class types. Applicant describes this inventive  
8 concept on page 58 of the specification. Lines 3-18 of page 58 are  
9 reproduced below [emphasis added]:

10 Step 1700 defines one or more class types and step 1702  
11 associates attributes with the class types. The class types are  
12 intended to describe certain *types of locations* where, for  
13 example, certain cell phone behaviors are desired. The attributes  
14 that are associated with the class types define the cell phone  
15 behavior that is desired for that class *type*. Various examples of  
16 this are given in Fig. 16. For example, for a class type 1,  
17 attributes are that the ringer is turned off, and so on. Step 1704  
18 associates class types with *multiple different locations*. Each  
19 location is associated with a class *type*. Accordingly, at these  
20 locations, cell phone behavior of location-aware cell phones can  
21 be governed by the attributes that are associated with that class  
22 *type*. This provides a simple infrastructure for implementing  
23 context-aware phones. By utilizing the concept of class types,  
24 those individuals who are in charge of overseeing the context-  
25 awareness of their particular locations need not be concerned  
with anything other than selecting the correct class type for their  
location. They can do this by simply reviewing the attributes that  
are associated with the different class types and then selecting an  
appropriate class *type*.

Te-eni neither discloses nor suggests any such subject matter.  
Rather, Te-eni *teaches directly away* from the subject matter of this claim

1 by specifically teaching that a basic usage policy is defined for each  
2 location *instance*.

3 Accordingly, for at least this reason, this claim is allowable.

4 **Claim 30** depends from claim 29 and, as such, is allowable as  
5 depending from an allowable base claim. This claim is also allowable for  
6 its own recited features which, in combination with those recited in claim  
7 29, are neither shown nor suggested by Te-eni either singly or in  
8 combination with any of the references of record.

9  
10 **Claims 31-35**

11 **Claim 31** recites a method of managing cellular phone behavior  
12 comprising [emphasis added]:

- 13
- 14 • providing one or more transmitters that are configured to  
15 transmit information that permits cellular phones to  
16 automatically modify their behavior, at least a portion of the  
17 information pertaining to one or more *class types individual*  
18 *ones of which* are associated with various attributes that  
19 define the behavior of cellular phones;
  - placing the one or more transmitters in a location where a  
particular cellular phone behavior is desired; and
  - transmitting information using said one or more transmitters.
- 20

21 In making out the rejection of this claim, the Office argues that the  
22 subject matter of this claim is suggested by the combination of Kovacs and  
23 Te-eni. Specifically, the Office argues that Kovacs discloses one or more  
24 class types individual ones of which are associated with various attributes  
25

1 that define the behavior of cellular phones.

2 Applicant respectfully but strongly disagrees.

3 The Office cites to Kovacs for a mention of silent vibration during a  
4 concert. The relevant paragraph in col. 2 of page 190 is provided below:

5 Another trend results from a high market pressure that mobile  
6 devices must adapt to the current user situation. For instance,  
7 customers require that a mobile telephone's call indication might  
8 be issued through different means, e.g., through a silent vibration  
9 while being in a (classic) concert or through a direct flashing in a  
10 noisy environment (like a rock concert). Other examples can be  
11 found through network features like call forwarding, universal  
12 personal identification numbers, or voice mailboxes.

13 Applicant respectfully submits that this brief mention of the need for  
14 different cell phone behaviors in different environments does not even  
15 come close to disclosing "providing one or more transmitters that are  
16 configured to transmit information that permits cellular phones to  
17 automatically modify their behavior, at least a portion of the information  
18 pertaining to one or more class types individual ones of which are  
19 associated with various attributes that define the behavior of cellular  
20 phones." For instance, Kovacs does not disclose or suggest the notion of  
21 *class types*, as that term is defined and used in Applicant's specification.

22 In the Office's "Response to Arguments", the Office argues that "the  
23 environments such as hospital or theater would read on 'class types' as  
24 claimed." Applicant again respectfully but strongly disagrees. The Office's  
25 argument parallels the one the Office made regarding Te-eni in claim 29.

Te-eni discloses a usage policy database for *specific* location  
*instances*. For example, Te-eni does not disclose a location *type* which

1 would include more than one *instance* of a hospital location. Instead, line 2  
2 deals with “*the*” hospital. Likewise, lines 3 and 4 deal with “*the*” concert  
3 hall. Te-eni’s Fig. 5 confirms this in step 54. Step 54 determines whether  
4 there is a usage policy defined for a *specific* location. Step 56 allows or  
5 denies service according to the “location *specific*” usage policy. According  
6 to Te-eni then, there is no single rule which would apply to *more than one*  
7 hospital by virtue of the fact that it is a hospital location *type*. Similarly, the  
8 rule for a *specific* concert hall would not be applicable to any other  
9 environment calling for a similar usage policy or even another concert hall.  
10 For example, the Office’s attention is drawn to Te-eni’s Table 1, lines 3 and  
11 5. Te-eni sets up separate rules for a *specific* concert hall and a *specific*  
12 cinema. This is despite the fact that the rules are *identical*. Both location  
13 *instances* call for rules denying all services except SMS between the hours  
14 of 10 p.m. and midnight. Applicant submits that Te-eni’s system is  
15 *inefficient, wasteful, and needlessly repetitive*.

16 Applicant, on the other hand, simplifies the association of location  
17 and behaviors through the use of multiple *class types* and various attributes  
18 that are associated with the class types. Applicant describes this inventive  
19 concept on page 58 of the specification. Lines 3-18 of page 58 are  
20 reproduced below [emphasis added]:

21 Step 1700 defines one or more class types and step 1702  
22 associates attributes with the class types. The class types are  
23 intended to describe certain *types of locations* where, for  
24 example, certain cell phone behaviors are desired. The attributes  
25 that are associated with the class types define the cell phone  
behavior that is desired for that class *type*. Various examples of  
this are given in Fig. 16. For example, for a class type 1,  
attributes are that the ringer is turned off, and so on. Step 1704

1 associates class types with *multiple different locations*. Each  
2 location is associated with a class *type*. Accordingly, at these  
3 locations, cell phone behavior of location-aware cell phones can  
4 be governed by the attributes that are associated with that class  
5 *type*. This provides a simple infrastructure for implementing  
6 context-aware phones. By utilizing the concept of class types,  
7 those individuals who are in charge of overseeing the context-  
8 awareness of their particular locations need not be concerned  
9 with anything other than selecting the correct class type for their  
10 location. They can do this by simply reviewing the attributes that  
11 are associated with the different class types and then selecting an  
12 appropriate class *type*.

13 Te-eni neither discloses nor suggests any such subject matter.  
14 Rather, Te-eni *teaches directly away* from the subject matter of this claim  
15 by specifically teaching that a basic usage policy is defined for each  
16 location *instance*.

17 In addition, there is nothing in Kovacs that discloses or suggests  
18 anything beyond what Te-eni discloses – that is, certain behavior defined  
19 for each location *instance*.

20 Therefore, neither the primary or secondary reference cited by the  
21 Office in the rejection of this claim disclose or suggest the use of *class*  
22 *types* to define the behavior of cellular phones. Accordingly, for at least this  
23 reason, the Office has failed to establish a *prima facie* case of obviousness  
24 and this claim is allowable.

25 **Claims 32-35** depend from claim 31 and, as such, are allowable as  
depending from an allowable base claim. These claims are also allowable  
for their own recited features which, in combination with those recited in  
claim 31, are neither shown nor suggested in the references of record either  
singly or in combination with one another. In addition, given the Office's

1 failure to establish a *prima facie* case of obviousness, the rejection of claim  
2 34 over the combination with Finke-Anlauff is not seen to add anything of  
3 significance.

#### 4 5 Claims 36-40

6 **Claim 36** recites a method of managing cellular phone behavior  
7 comprising [emphasis added]:

- 8
- 9 • defining one or more *class types* each of which can be  
10 associated with a location for which a particular cellular  
11 phone behavior is desired; and
  - 12 • associating attributes with the one or more class types, the  
13 attributes defining cellular phone behavior.
- 14

15 In making out the rejection of this claim, the Office argues that the  
16 subject matter of this claim is anticipated or suggested by Kovacs.  
17 Specifically, the Office argues that Kovacs discloses one or more class  
18 types each of which can be associated with a location for which a particular  
19 cellular phone behavior is desired. Applicant respectfully but strongly  
20 disagrees.

21 Before discussing how the claimed subject matter is patentably  
22 distinct from Kovacs' disclosure, Applicant will discuss the meaning of  
23 "class types" as Applicant has defined the term in the specification.  
24 Applicant simplifies the association of location and behaviors through the  
25 use of multiple *class types* and various attributes that are associated with  
the class types. Applicant describes this inventive concept on page 58 of



1 the specification. Lines 3-18 of page 58 are reproduced below [emphasis  
2 added]:

3 Step 1700 defines one or more class types and step 1702  
4 associates attributes with the class types. The class types are  
5 intended to describe certain *types of locations* where, for  
6 example, certain cell phone behaviors are desired. The attributes  
7 that are associated with the class types define the cell phone  
8 behavior that is desired for that class *type*. Various examples of  
9 this are given in Fig. 16. For example, for a class type 1,  
10 attributes are that the ringer is turned off, and so on. Step 1704  
11 associates class types with *multiple different locations*. Each  
12 location is associated with a class *type*. Accordingly, at these  
13 locations, cell phone behavior of location-aware cell phones can  
14 be governed by the attributes that are associated with that class  
15 *type*. This provides a simple infrastructure for implementing  
16 context-aware phones. By utilizing the concept of class types,  
17 those individuals who are in charge of overseeing the context-  
18 awareness of their particular locations need not be concerned  
19 with anything other than selecting the correct class type for their  
20 location. They can do this by simply reviewing the attributes that  
21 are associated with the different class types and then selecting an  
22 appropriate class *type*.

23  
24 In rejecting this claim, the Office cites to Kovacs for a mention of  
25 silent vibration during a concert. The relevant paragraph in col. 2 of page  
190 is provided below:

19 Another trend results from a high market pressure that mobile  
20 devices must adapt to the current user situation. For instance,  
21 customers require that a mobile telephone's call indication might  
22 be issued through different means, e.g., through a silent vibration  
23 while being in a (classic) concert or through a direct flashing in a  
24 noisy environment (like a rock concert). Other examples can be  
25 found through network features like call forwarding, universal  
personal identification numbers, or voice mailboxes.

1 Applicant respectfully submits that this brief mention of the need for  
2 different cell phone behaviors in different environments does not disclose  
3 “defining one or more *class types* each of which can be associated with a  
4 location for which a particular cellular phone behavior is desired.”

5 In the Office’s “Response to Arguments”, the Office argues that “the  
6 environments such as hospital or theater would read on ‘class types’ as  
7 claimed.” Applicant again respectfully but strongly disagrees. There is  
8 nothing in Kovacs that discloses or suggests anything beyond certain  
9 behavior defined for each location *instance*. This is quite different from  
10 defining one or more class *types* each of which can be associated with a  
11 location for which a particular cellular phone behavior is desired.  
12 Accordingly, for at least this reason, this claim is allowable.

13 **Claims 37-40** depend from claim 36 and, as such, are allowable as  
14 depending from an allowable base claim. These claims are also allowable  
15 for their own recited features which, in combination with those recited in  
16 claim 36, are neither shown nor suggested by the references of record either  
17 singly or in combination with one another. In addition, given the  
18 allowability of the base claim, the rejection of claims 37, 38 and 40 over the  
19 combination with Te-eni, and of claim 39 over the combination with Te-eni  
20 and Finke-Anlauff is not seen to add anything of significance.

21  
22 **Claim 41**

23 **Claim 41** recites a method of managing cellular phone behavior  
24 comprising [emphasis only]:  
25

- 1       • *defining one or more class types* each of which can be  
2       associated with a location for which a particular cellular  
3       phone behavior is desired;
- 4       • associating attributes with the one or more class types, the  
5       attributes defining cellular phone behavior; and
- 6       • *associating a class type with a location* for which a particular  
7       cellular phone behavior is desired.

8       In making out the rejection of this claim, the Office argues that the  
9       subject matter of this claim is anticipated or suggested by Kovacs.  
10      Specifically, the Office argues that Kovacs discloses one or more class  
11      types each of which can be associated with a location for which a particular  
12      cellular phone behavior is desired. Applicant respectfully but strongly  
13      disagrees.

14      Before discussing how the claimed subject matter is patentably  
15      distinct from Kovacs' disclosure, Applicant will discuss the meaning of  
16      "class types" as Applicant has defined the term in the specification.  
17      Applicant simplifies the association of location and behaviors through the  
18      use of multiple *class types* and various attributes that are associated with  
19      the class types. Applicant describes this inventive concept on page 58 of  
20      the specification. Lines 3-18 of page 58 are reproduced below [emphasis  
21      added]:

22      Step 1700 defines one or more class types and step 1702  
23      associates attributes with the class types. The class types are  
24      intended to describe certain *types of locations* where, for  
25      example, certain cell phone behaviors are desired. The attributes  
26      that are associated with the class types define the cell phone  
27      behavior that is desired for that class *type*. Various examples of  
28      this are given in Fig. 16. For example, for a class type 1,  
29      attributes are that the ringer is turned off, and so on. Step 1704  
30      associates class types with *multiple different locations*. Each

1 location is associated with a class *type*. Accordingly, at these  
2 locations, cell phone behavior of location-aware cell phones can  
3 be governed by the attributes that are associated with that class  
4 *type*. This provides a simple infrastructure for implementing  
5 context-aware phones. By utilizing the concept of class types,  
6 those individuals who are in charge of overseeing the context-  
7 awareness of their particular locations need not be concerned  
8 with anything other than selecting the correct class type for their  
9 location. They can do this by simply reviewing the attributes that  
10 are associated with the different class types and then selecting an  
11 appropriate class *type*.

12  
13 In rejecting this claim, the Office cites to Kovacs for a mention of  
14 silent vibration during a concert. The relevant paragraph in col. 2 of page  
15 190 is provided below:

16  
17 Another trend results from a high market pressure that mobile  
18 devices must adapt to the current user situation. For instance,  
19 customers require that a mobile telephone's call indication might  
20 be issued through different means, e.g., through a silent vibration  
21 while being in a (classic) concert or through a direct flashing in a  
22 noisy environment (like a rock concert). Other examples can be  
23 found through network features like call forwarding, universal  
24 personal identification numbers, or voice mailboxes.

25  
26 Applicant respectfully submits that this brief mention of the need for  
27 different cell phone behaviors in different environments does not disclose  
28 "defining one or more *class types* each of which can be associated with a  
29 location for which a particular cellular phone behavior is desired,  
30 associating attributes with the one or more class types, the attributes  
31 defining cellular phone behavior, and associating a class type with a  
32 location for which a particular cellular phone behavior is desired."

33  
34 In the Office's "Response to Arguments", the Office argues that "the  
35 environments such as hospital or theater would read on 'class types' as

1 claimed.” Applicant again respectfully but strongly disagrees. There is  
2 nothing in Kovacs that discloses or suggests anything beyond certain  
3 behavior defined for each location *instance*. This is quite different from  
4 defining one or more class *types* each of which can be associated with a  
5 location for which a particular cellular phone behavior is desired.  
6 Accordingly, for at least this reason, this claim is allowable.

#### 8 Claims 42-47

9 **Claim 42** recites a method of managing cellular phone behavior  
10 comprising [emphasis added]:

- 11 • *associating a class type with a location* for which a particular  
12 cellular phone behavior is desired, the class type having  
13 attributes that define the cellular phone’s behavior; and
- 14 • *wirelessly transmitting information pertaining to the class*  
15 *type* for reception by cellular phones in the location, the  
16 information being configured to be used by cellular phones to  
17 automatically adjust one or more behaviors.

18 In making out the rejection of this claim, the Office argues that the  
19 subject matter of this claim is anticipated or suggested by Kovacs.  
20 Specifically, the Office argues that Kovacs discloses one or more class  
21 types each of which can be associated with a location for which a particular  
22 cellular phone behavior is desired. Applicant respectfully but strongly  
23 disagrees.

24 Before discussing how the claimed subject matter is patentably  
25 distinct from Kovacs’ disclosure, Applicant will discuss the meaning of  
“class types” as Applicant has defined the term in the specification.

1 Applicant simplifies the association of location and behaviors through the  
2 use of multiple *class types* and various attributes that are associated with  
3 the class types. Applicant describes this inventive concept on page 58 of  
4 the specification. Lines 3-18 of page 58 are reproduced below [emphasis  
5 added]:

6 Step 1700 defines one or more class types and step 1702  
7 associates attributes with the class types. The class types are  
8 intended to describe certain *types of locations* where, for  
9 example, certain cell phone behaviors are desired. The attributes  
10 that are associated with the class types define the cell phone  
11 behavior that is desired for that class *type*. Various examples of  
12 this are given in Fig. 16. For example, for a class type 1,  
13 attributes are that the ringer is turned off, and so on. Step 1704  
14 associates class types with *multiple different locations*. Each  
15 location is associated with a class *type*. Accordingly, at these  
16 locations, cell phone behavior of location-aware cell phones can  
17 be governed by the attributes that are associated with that class  
18 *type*. This provides a simple infrastructure for implementing  
19 context-aware phones. By utilizing the concept of class types,  
20 those individuals who are in charge of overseeing the context-  
21 awareness of their particular locations need not be concerned  
22 with anything other than selecting the correct class type for their  
23 location. They can do this by simply reviewing the attributes that  
24 are associated with the different class types and then selecting an  
25 appropriate class *type*.

18 In rejecting this claim, the Office cites to Kovacs for a mention of  
19 silent vibration during a concert. The relevant paragraph in col. 2 of page  
20 190 is provided below:

22 Another trend results from a high market pressure that mobile  
23 devices must adapt to the current user situation. For instance,  
24 customers require that a mobile telephone's call indication might  
25 be issued through different means, e.g., through a silent vibration  
while being in a (classic) concert or through a direct flashing in a  
noisy environment (like a rock concert). Other examples can be

1 found through network features like call forwarding, universal  
2 personal identification numbers, or voice mailboxes.

3 Applicant respectfully submits that this brief mention of the need  
4 for different cell phone behaviors in different environments does not  
5 disclose “*associating a class type with a location* for which a particular  
6 cellular phone behavior is desired, the class type having attributes that  
7 define the cellular phone’s behavior; and *wirelessly transmitting*  
8 *information pertaining to the class type* for reception by cellular  
9 phones in the location, the information being configured to be used by  
10 cellular phones to automatically adjust one or more behaviors.”

11 In the Office’s “Response to Arguments”, the Office argues that “the  
12 environments such as hospital or theater would read on ‘class types’ as  
13 claimed.” Applicant again respectfully but strongly disagrees. There is  
14 nothing in Kovacs that discloses or suggests anything beyond certain  
15 behavior defined for each location *instance*. This is quite different from  
16 defining one or more class *types* each of which can be associated with a  
17 location for which a particular cellular phone behavior is desired.  
18 Accordingly, for at least this reason, this claim is allowable.

19 **Claims 43-47** depend from claim 42 and, as such, are allowable as  
20 depending from an allowable base claim. These claims are also allowable  
21 for their own recited features which, in combination with those recited in  
22 claim 42, are neither shown nor suggested by the references of record either  
23 singly or in combination with one another. Additionally, given the  
24 allowability of the base claim, the rejection of claims 43-47 over the  
25 combination with Te-eni is not seen to add anything of significance.

1  
2 **Claim 48**

3 As amended, **claim 48** recites a location-aware cell phone that can,  
4 using only information that it receives and its on-board componentry,  
5 determine its location and automatically adjust one or more of its settings  
6 so that it behaves in a manner that has been defined for that location by  
7 someone other than a user of the cell phone.

8 In making out the rejection of this claim, the Office argues that the  
9 subject matter of this claim is suggested by Kuwahara. However,  
10 Kuwahara *requires the user to define* an execution service to be executed  
11 in a user-defined location. As such, Kuwahara teaches directly *away* from  
12 the claimed subject matter. Accordingly, for at least this reason, this claim  
13 is allowable.

14  
15 **Claim 50**

16 **Claim 50** recites a method of operating a cellular phone comprising  
17 [emphasis added]:

- 18  
19
- providing a cellular phone; and
  - determining, with the cellular phone, a present cellular phone  
20 location wherein said determining comprises:
    - receiving location information;
    - *accessing one or more hierarchical tree structures*  
21 having nodes that correspond to locations; and
    - using the location information to *traverse at least*  
22 *portions of the one or more tree structures* to  
23 ascertain the present location.
- 24  
25



1 In making out the rejection of this claim, the Office argues that the  
2 subject matter of this claim is suggested by Kuwahara. Specifically, the  
3 Office argues that it would have been obvious to use a hierarchical  
4 traversable tree structure in order to traverse from the reported location of  
5 Kuwahara's zone area to get a corresponding user-defined area vector  
6 name. Applicant respectfully but strongly disagrees.

7 In the Office's "Response to Arguments", the Office directs  
8 Applicant's attention to Fig. 21 of Kuwahara and argues that Kuwahara's  
9 area vector names are hierarchical information of location information. The  
10 Office then argues that it would have been obvious to one of ordinary skill  
11 in the art to modify Kuwahara to use a hierarchical traversable tree  
12 structure in order to traverse effectively from one mode to another mode,  
13 for setting the phone to operate according to the instructed mode.

14 Applicant has reviewed Fig. 21 of Kuwahara and respectfully maintains  
15 that there is *no* hierarchical structure to Kuwahara's area vector names and  
16 reported location information. Hence, there would be no suggestion to use a  
17 hierarchical tree structure to represent Kuwahara's area vector names and  
18 reported location information.

19 Accordingly, the Office has failed to establish a *prima facie* case of  
20 obviousness and this claim is allowable.

## 21 22 Claims 51-53

23 **Claim 51** recites a *cellular phone* comprising [emphasis added]:

- 24  
25
- one or more computer-readable media;

- 1       • one or more hierarchical traversable tree structures resident  
2       on the computer-readable media, the tree structures  
3       comprising individual nodes each of which being associated  
4       with a phone context; and
- 5       • one or more processors *configured to*:
  - 6       ○ receive information that pertains to a current context of  
7       the cellular phone;
  - 8       ○ *automatically determine the current context* based on  
9       the information by traversing at least one node on one  
10      of the trees; and
  - 11      ○ modify at least one behavior of the cellular phone  
12      responsive to the current context.

13       In making out the rejection of this claim, the Office argues that the  
14       subject matter of this claim is suggested by the combination of Te-eni and  
15       Nelson. Here again, the Office relies on Te-eni in arguing that it discloses a  
16       cellular phone which is capable of determining its location. As noted above  
17       numerous times, this is simply not the case. As such, the Office has not  
18       established a *prima facie* case of obviousness.

19       Further, the Office then states that although Te-eni fails to disclose a  
20       hierarchical traversable tree structure associated with phone context, such  
21       use of a hierarchical traversable tree structure is known in the art as  
22       disclosed by Nelson. Applicant traverses the rejection and respectfully  
23       submits that the Office has further failed to establish a *prima facie* case of  
24       obviousness.

25       Exploring the context of Nelson in more detail, the hierarchical tree  
based scheme that Nelson discloses is one that is similar to one described as  
the Dataman system discussed in section 2.2.1. In Nelson's system, each  
leaf node of the tree represents a base station and the internal nodes of the  
tree represent location servers. See, e.g. section 2.2.2, first paragraph.

1 According to the system described in section 2.2.2, each location server  
2 maintains information regarding mobile hosts residing in the subtree  
3 beneath it and maintains three tuples—a mobile host identifier that provides  
4 the address of the host's home location, a forwarding pointer that identifies  
5 which location server the host has moved to, and a timestamp that indicates  
6 the time that the last forwarding took place. Base stations are said to  
7 maintain a similar structure for each host contained within its cell. By  
8 using forwarding pointers various updates strategies can be used. Nelson  
9 instructs that periodically, the forwarding pointers are collapsed and a  
10 single pointer is created. Searching is conducted by progressively moving  
11 up the tree until a location server is found which contains a record for the  
12 required host.

13         Simply put, the hierarchical tree structure that Nelson discloses is  
14 neither utilized by mobile devices nor resident on the mobile devices.  
15 Rather, the structure is utilized by either the base station or the location  
16 server to find a record for the required host. To this extent, Nelson teaches  
17 directly away from the subject matter of claim 51 which recites a cellular  
18 phone comprising one or more computer-readable media having one or  
19 more hierarchical traversable tree structures that are utilized to determine  
20 the current context as recited in this claim. Thus, the Office has failed to  
21 establish a *prima facie* case of obviousness for at least this additional  
22 reason.

23         Accordingly, for all of the reasons set forth above, this claim is  
24 allowable.  
25

1       **Claims 52 and 53** depend from claim 51 and, as such, are allowable  
2 as depending from an allowable base claim. These claims are also  
3 allowable for their own recited features which, in combination with those  
4 recited in claim 51, are neither shown nor suggested by the references of  
5 record either singly or in combination with one another.

6  
7       **Claims 54-57**

8       **Claim 54** recites a *cellular phone* comprising [emphasis added]:

- 9
- 10       • a context service module that is configured to receive  
11       different forms of information from multiple different types  
12       of context providers; and
  - 13       • one or more processors associated with the context service  
14       module and configured to:
    - 15       ○ receive information that pertains to a current context of  
16       the cellular phone;
    - 17       ○ *determine the current context* based on the  
18       information; and
    - 19       ○ modify at least one behavior of the cellular phone  
20       responsive to the current context.

21       In making out the rejection this claim, the Office argues that Te-  
22       eni anticipates this claim. Applicant respectfully but strongly disagrees. As  
23       noted above, Te-eni simply does not disclose or suggest a *cellular phone*  
24       configured to *receive information that pertains to a current context of the*  
25       *cellular phone and determine the current context based on the*  
26       *information*. Accordingly, for at least this reason, this claim is allowable.

27       **Claims 55-57** depend from claim 54 and, as such, are allowable as  
28       depending from an allowable base claim. These claims are also allowable

1 for their own recited features which, in combination with those recited in  
2 claim 54, are neither shown nor suggested by the references of record either  
3 singly or in combination with one another. Additionally, given the  
4 allowability of the base claim, the rejection of claim 56 over the  
5 combination with Nelson adds nothing of significance.

6  
7 **Claim 58**

8 **Claim 58** recites a *cellular phone* comprising [emphasis added]:

- 9
- 10 • location provider means for receiving different forms of  
location information;
  - 11 • *means for ascertaining a location* from the location  
information; and
  - 12 • means for modifying at least one behavior associated with the  
cellular phone responsive to ascertaining said location.
- 13

14  
15 In making out the rejection of this claim, the Office argues that the  
16 subject matter of this claim is rendered obvious by the combination of Te-  
17 eni and Kuwahara. Here again, the Office relies on Te-eni in arguing that it  
18 discloses a cellular phone which is capable of determining its location. As  
19 noted above, this is simply not the case.

20 The Office then states that although Te-eni fails to disclose  
21 ascertaining its location from different forms of location information, such  
22 step is known in the art as disclosed by Kuwahara. Applicant traverses the  
23 rejection and respectfully submits that the Office has failed to make a *prima*  
24 *facie* case of obviousness.  
25

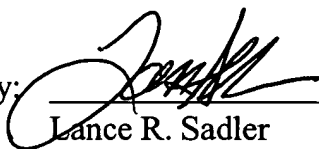
1 Te-eni does not disclose or suggest a *cellular phone* comprising  
2 means for *ascertaining a location*. Hence, for at least this reason, the  
3 Office has failed to establish a *prima facie* case of obviousness. Given the  
4 failure of the Office to establish a *prima facie* case of obviousness, the  
5 Office's reliance on Kuwahara adds nothing of significance. Accordingly,  
6 for at least this reason, this claim is allowable.

7  
8 **Conclusion**

9 All of the claims are in condition for allowance. Accordingly,  
10 Applicant requests a Notice of Allowability be issued forthwith. If the  
11 Office's next anticipated action is to be anything other than issuance of a  
12 Notice of Allowability, Applicant respectfully requests a telephone call for  
13 the purpose of scheduling an interview or positioning the application for  
14 Appeal.

15  
16 Respectfully submitted,

17  
18 Dated: 11/19/03

19 By:   
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21 Reg. No. 38,605  
22 (509) 324-9256  
23  
24  
25